Mamiya 645DF

0712 01
(Printed in Japan)

"What's DF ?"

The 645DF is the result of Mamiya's labors to create the optimum platform for digital photography.
The 645DF has been manufactured exclusively for digital use and is the exciting centerpiece of professional camera systems for the digital age. Based on the world's advanced technology acquired and maintained when film was the prevalent medium in the area of professional photo equipment, Mamiya has expanded its expertise to create a camera formulated especially for digital photography while maintaining the level of quality expected from the brand.

In response to the digitalization of professional photography, Mamiya has crafted its next generation camera for digital format.

Honed for a digital platform, the 645DF

As a result of Mamiya's ongoing review of each part and function, and as a reflection of market demands for 645 format cameras, the 645DF offers improved response and seamless compatibility with digital backs. The 645DF is also designed for use with our new line-up of leaf shutter lenses, which are capable of full speed flash synchronization of up to 1/800 second, giving the photographer newfound freedom in image creation.

Even faster and more accurate AF speeds

Digital shooting demands a much higher level of precision in focusing than when shooting in film. To cater for this difference, the 645DF has improved accuracy and speed when auto-focusing.
Photographers can choose from 3 automatically selected focus areas, or a preferred focusing area using spot focusing.

Greater photographic creativity made easy with leaf shutter lens compatibility

In addition to the wide range of Mamiya 645 lenses, there is a new line-up of leaf shutter lenses with compatibility to the 645DF. With a leaf shutter lens attached, the 645DF is flexible to fill-in flash photography, something unobtainable with previous Mamiya 645 models. By simply pressing the shutter button, the lens shutter charges automatically, allowing for hand-held photography that is no more difficult than if using the focal plane shutter. Even when a leaf shutter lens is attached, it is possible to use shutter speeds up to 1/4,000 sec. seamlessly as the shutter is automatically switched to the focal plane shutter when speeds are over 1/800 sec.

Elimination of delay from shutter lag

Designing the 645 DF specifically for digital photography has enabled shutter lag to be virtually eliminated. This paves the way for continuous shooting without needless interruption.

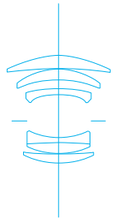
Sekor LS Lens

More artistic flexibility using the 645DF

The release of the 645DF also heralds the launch of the new Sekor LS series of 80mm, 55mm and 110mm lenses.
The Sekor LS lens series is designed for use with the 645DF and each lens incorporates a lens shutter. Full speed synchronization up to 1/800 sec. at the X contact is enabled via the lens shutter which allows greater flexibility for day-light synchronization, etc. Since the shutter charges automatically by pressing the shutter button, the lenses can be used in the same way as existing 645AF lenses.
The photographer can program the camera to shoot using the focal plane shutter or lens shutter simply by setting the preferred mode in custom functions.

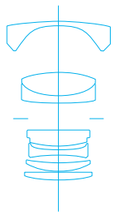
*When Mamiya M series digital backs are attached, the lens factor for the M18 and M31 is x1.3 and x1.1 for the M22.

Sekor AF 80mm F2.8 LS D



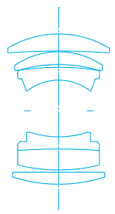
A standard lens with an angle of view of 47 degrees. This lens is the equivalent to a 50mm lens in the 35mm format. This lens has been designed for low aberration, and produces natural, well-balanced images. Flash sync speeds of up to 1/800 second are achievable. When used with the 645DF, performance is optimized via a 16 bit CPU. Changing between AF and MF is facilitated by simply turning the switching ring left or right.

Sekor AF 55mm F2.8 LS D



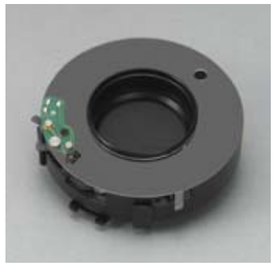
A wide-angle lens with an angle of view of 65 degrees, which is the equivalent to a 34mm lens in the 35mm format and produces most natural image for a wide-angle lens. A floating mechanism improves aberration at the periphery and maintains sharpness consistently from the minimum focusing distance to infinity. Flash sync. speeds up to 1/800 seconds are achievable. This lens is versatile and can be used as a standard lens with the feel of a wide-angle lens. A 16 bit CPU and simple switching ring between AF and MF are also featured.

Sekor AF 110mm F2.8 LS D



A medium telephoto lens with an angle of view of 35 degrees. This lens is equivalent to a 68mm lens in the 35mm format. Although particularly suited to portrait and landscape photography, its focal length and the maximum aperture of F2.8 allow for flexibility in all kinds of photographic situations. This lens is useful for creating images with a shallow depth of field while employing high flash synchronization and maximum aperture. A 16 bit CPU and simple switching ring between AF and MF are featured.

Specification	Sekor LS Series		
	Sekor AF 80mm F2.8 LS D	Sekor AF 55mm F2.8 LS D	Sekor AF 110mm F2.8 LS D
Optical Construction	6 elements 5 groups	7 elements 6 groups	6 elements 5 groups
Angle of View	47°	65 °	35 °
Minimum aperture	22	22	22
Diaphragm	Automatic	Automatic	Automatic
Focusing System	Auto/Manual	Auto/Manual	Auto/Manual
Minimum Focusing Distance (from CCD)	70cm	45cm	90cm
Maximum Magnification Ratio	0.15	0.18	0.16
Area Covered (6×4.5cm)	377×279mm	267×200mm	352×261mm
Equivalent Focal Length for 35mm	50mm	34mm	68mm
Filter Diameter	72mm	72mm	72mm
Lens Hood	Bayonet	Bayonet	Bayonet
Dimensions (length×diameter)	51.5×80.5mm	77.6×86.5mm	83.3×86.5mm
Weight	450g	530g	635g
Lens shutter speeds	1/800sec～1sec	1/800sec～1sec	1/800sec～1sec
Flash Synchronization	All speeds	All speeds	All speeds
Equivalent focal length to 645 format for 49×37mm CCD	91mm	62mm	125mm
Equivalent focal length to 135 format for 49×37mm CCD	56mm	39mm	78mm



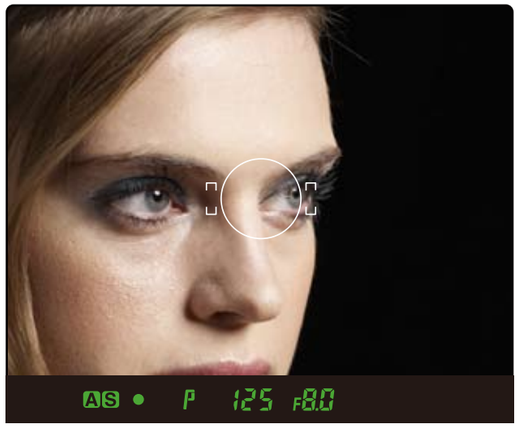
Lens shutters that allow for expanded creativity

The lens shutter is an essential tool for the creative photographer as it is capable of full speed flash synchronization. This synchronization gives the photographer the edge in deciding exposure without being restricted by flash synchronization speed.
In the past, when using fill-in flash with a focal plane shutter, the photographer had to work within an aperture setting to match the limits of flash synchronization (1/125 sec. for X contact). The lens shutter enables full speed flash synchronization (1/800 sec. with the Sekor LS series) making it easier to control the exposure difference between natural light and the flash.
With fill-in flash using the lens shutter, the exposure difference between the main subject and background can be increased or decreased depending on the creative look the photographer wishes to portray.

645DF + Mamiya Digital Back M22
Sekor 110mm f2.8D LS 1/500 F20 ISO100

Camera Performance

645DF + Mamiya Digital Back M31　Sekor 80mm f2.8D　1/40　F11　ISO100



Improved response for auto focus and shutter lag

Mamiya has reassessed its auto focusing mechanism so the 645DF now focuses more accurately. TTL detection has been been incorporated as the 645DFs auto focusing technology with reconfigured focus detection to improve the speed and accuracy.
Photographers have the choice of automatic selection for the focus area, or spot focusing, which allows the preferred area of focus to be allocated.
Since the 645DF is designed for digital photography, it is relatively free of shutter lag, an inconvenience tied to film winding.
Improved auto focusing and reduced shutter delay allow the photographer to shoot with excellent response and timing.

Improved auto-focusing speed and selectable AF modes

New AF gearing enables faster auto-focusing. The Mamiya 645DF gives the user the flexibility to choose between 'AF fast mode' (for faster shooting at smaller apertures) or 'high precision AF mode' (for greater accuracy when shooting still life or product shots).

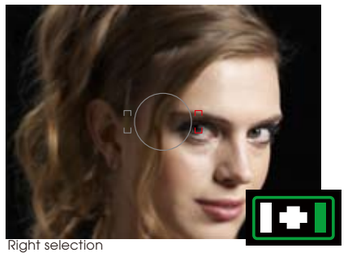
3-point focus area

The 645DF uses TTL phase difference detection as its auto focusing system. The camera can focus using 3-point focus areas so many different kinds of subjects can be taken from different viewing angles. Users can choose between automatic selection or single area selection which calls for the user to specify a particular focus area.

Examples of single area selection　*The focus area is not displayed inside the actual viewfinder.

Left selection

Center selection


Right selection

A choice of focus modes to suit the subject

Focus mode selector lever

Single AF Mode (S)
This mode puts priority on precise focusing at the moment the shutter is released, which is ideal for still subjects. Focus is locked when the viewfinder LCD focus mark lights. AF lock is activated in this mode.

Continuous AF Mode (C)
This mode continually adjusts focus even while the shutter release button is being half-pressed.
It is best for moving subjects; focus is not locked even when the focus mark lights.

Manual Focus Mode (M)
Selecting this mode cancels Auto Focus. The focus symbol ● appears in the viewfinder when the image is in focus, and a focus aid feature indicates the rotation direction of the focus ring with ◀ and ▶ marks.

Auto-focus infrared assist beam

The Mamiya 645DF is a medium format auto-focus camera with a built-in auto-focus assist beam.
It goes into effect automatically under poor light and low subject contrast conditions.
For sensitive situations such as political events, the AF assist beam is switchable on/off.

AF lock button

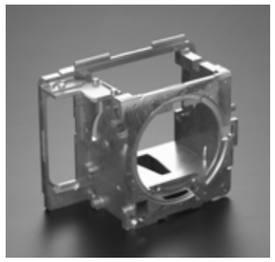
By pressing the AF lock button, auto focus can be locked without having to press the shutter release button half-way.

Camera Performance

Magnesium alloy viewfinder cover

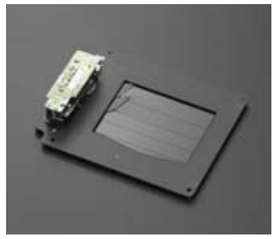
The 645DF incorporates the finest materials borrowed from its predecessor the 645AF.
Utilizing a magnesium alloy cover ensures that the prism and digital circuitry of the viewfinder is protected.
In addition to providing secure protection, this magnesium alloy also contributes to the overall compact and lightweight design of the camera.
The result is an innovative configuration with a revolutionary and timeless look for today's medium format SLR.

Die-cast aluminum body



The body shell is die-cast from a lightweight, high-strength aluminum alloy.
Exceptional precision in machining assures reliable, durable performance even under the harshest working conditions.

Super-fast 1/4000-sec shutter speed expands creative potential



The vertical-travel metal focal plane shutter provides a maximum shutter speed of 1/4000 second.
This permits the photographer to employ techniques, from soft-focus portraits using a wide aperture lens to razor-sharp images of even the fastest-moving subjects.
The high-speed shutter also allows flash synchronization at a fast 1/125 sec. which enables effective application and other flash techniques.
(When a LS lens is attached, the lens shutter is used in priority to the focal plane shutter.)

Extended long exposure time with 'Time' mode

In order to profit further from the low noise capabilities achieved by the Mamiya M series digital backs during long exposures, the Mamiya 645DF offers even longer exposure times of 1, 2, 4, 8, 15, 30 & 60 minutes. In addition to Bulb mode, Time mode has been added to the Mamiya 645DF.

Seamlessly switching shutter

When a Sekor LS lens is attached, the lens shutter is used for an operating range of 1/800 second to 1 second. For other shutter speeds, the focal plane shutter is automatically employed.

Using custom function C-17 & C-18, the photographer decide which shutter they prefer to use.

Interval shooting function

The Mamiya 645DF can be set to automatically release the shutter repeatedly after designated intervals. This function eliminates the need for the photographer to activate the camera and is particularly convenient for fixed point observation or aerial photography.

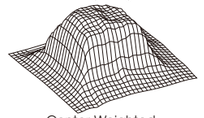
3 metering modes & 5 exposure modes

(A) Center-Weighted Averaged Metering
This mode meters the average reflected brightness of the entire image, with emphasis on the center of the screen.

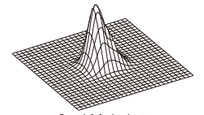
(AUTO A-S) Variable Ratio Metering
This mode automatically switches between average and spot modes depending on the relative contrast within the overall image; it provides exposure settings suited to a wide range of subjects and lighting conditions.

(S) Spot Metering
This mode meters reflected light on the image at a specific point, indicated by the circle at the center of the focusing screen. It is optimal for use with high contrast subjects and for measuring brightness at a specific area of the subject.

<Metering diagram >



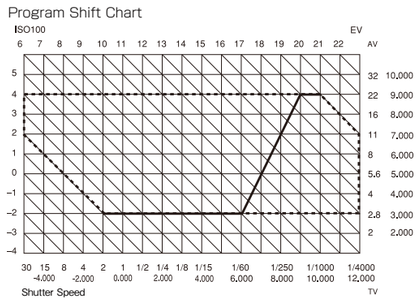
Center-Weighted Averaged Metering



Spot Metering

(P) Program AE Mode
This mode automatically determines optimal exposure settings, using preprogrammed aperture and shutter values to ensure exposure accuracy under ambient lighting.
This mode is ideal for general photography without the need to make adjustments.

Program Shift Chart



(Tv) Shutter Speed Priority AE Mode
This mode emphasizes the effect of shutter speed on the image.
Set the desired shutter speed and the camera automatically adjusts aperture value to match.
Shutter speed values can be set in 1/3 or 1/2 steps.

(Av) Aperture Priority AE Mode
This mode emphasizes the depth-of field effect of aperture setting on the image.
Simply adjust the aperture value and the camera automatically adjusts shutter speed to match.
Aperture values can be set in 1/3 or 1/2 steps. Depth-of-field is checked in the viewfinder by pressing the preview button.

(M) Manual Mode
This mode enables the photographer to have total control over both aperture and shutter speed, and is best used to adjust settings based on readings from a separate exposure meter. Both values can be set in 1/3 or 1/2 steps.The difference between the set value and metered value is displayed on the viewfinder LCD panel. Pressing the AEL button for 1 second will shift the shutter speed to the metered value. The adjustment range is +/-6EV, displayed in 1/3 steps (x.3/ x.7/ x.0). In bulb and time modes (electronically controlled) extended time exposure is possible.

(X) X Mode
This mode locks the shutter speed at the maximum sync speed of 1/125 sec. Modification is possible in custom functions. In this mode, the focal plan shutter is used even when the LS lens is attached. Use other exposure modes for flash synchronization with the lens shutter.

Sophisticated operation

The 645DF allows for exposure-related operations to be set in a logical manner. Exposure related functions can be assigned to the three buttons behind the main LCD and selected using the grip's front and rear dials. This accessibility on the camera grip allows the photographer to select metering mode, select auto bracketing or set exposure compensation all while holding the camera. Focusing point selection, multiple exposure and other camera operations are also allocated to these three buttons. Switching between the exposure operations and camera operations is accomplished by fully pressing the buttons or holding them down.
By using the new C1, C2 and C3 modes assigned to the exposure mode setting dial, the photographer can save set modes (exposure mode, focus area and metering modes) for use on later occasions.

Auto bracketing function

The enhanced auto bracketing function is useful in complex lighting situations when it is difficult for the photographer to judge the correct exposure. Auto bracketing can be set in 3 exposure modes: Tv, Av or M. The photographer can set a specific repeating number for the auto bracketing sequence, and the range.

Exposure compensation function

This function allows the photographer to compensate the exposure set by the camera, allowing for unrestrained shooting and artistic freedom.

Camera Performance

Easily programmable custom functions

To set a custom function, simply turn the mode dial to the CF position, select the desired custom function number. Up to three user settings – A, B & C – can be registered.
The custom function menu has 19 different categories are available (see below for list). In addition, preferred exposure mode, focus area and metering mode can be stored to custom functions. This allows the photographer to concentrate on creating images, rather than constantly adjust camera settings.
It's easy to copy default setting or settings of another user number. A custom function set by the user can also be initialized.

Custom functions to personalize settings for the needs of the individual

C-00	Custom function number	For selecting and switching between 3 users with programmable custom functions.
C-01	Steps for AV, TV and exposure comp	For selecting aperture, shutter speed and exposure compensation steps.
C-02	Aperture setting after lens change	For setting the aperture value after a lens change.
C-03	Time delay until sleep mode	For setting the time frame for sleep mode to be initiated.
C-04	Select battery	For setting rechargeable or non-rechargeable battery types.
C-05	Auto bracketing steps	For setting the bracket width for auto bracketing operations.
C-06	F/R dials function exchange in M mode	For exchanging the front dial functions with the rear dial functions (and vice versa) in manual mode.
C-07	Stopping the R dial function in P mode	For enabling/disabling the rear dial functions in P mode.
C-08	Dial rotating direction	For selecting the rotating direction for increases and decreases in values on the electronic dial.
C-09	AEL/AFL function button exchange	For replacing the AEL button function with the AFL button function (and vice versa).
C-10	Half-press shutter release function	For setting the AE and AF lock operation when the shutter release button is half pressed.
C-11	AEL lock/unlock mode	For setting the method of operating the AEL lock button to lock AE.
C-12	AFL lock mode	For setting the AF lock method when the AFL button is operated.
C-13	One push shift function	For setting the TV shift or AV shift in one push function
C-14	AF beam setting	For switching the operation of the AF assist beam on or off.
C-15	Flash sync timing	For setting flash synchronization timing (front or rear curtain).
C-16	Beep	For sounding a beep (on or off)
C-17	Shutter selection (in P, Av or Tv mode)	For selecting which shutter to use in P, Av or Tv mode when an LS lens is attached.
C-18	Shutter selection (in M mode)	For selecting which shutter to use in M mode when an LS lens is attached.
C-19	AF speed	For selecting high speed or high accuracy priority in auto focusing.
C-98	Lens firmware version	For checking the current firmware version of the lens.
C-99	Camera body firmware version	For checking the current firmware version of the camera body.

Sophisticated TTL flash control

The Mamiya 645DF incorporates automated TTL-OTF (through the lens/off-the-film) flash control, with an X-sync hot shoe and dedicated circuitry. The flash system is compatible with the Metz SCA3002 System, which provides exceptional flash control. Using a Metz flash with the SCA3952 adapter enables transfer of aperture, and other data for automated synchronization as well as power zoom control link and automatic operation of the Auto Focus measuring beam. In AE modes "AV " and "P ", the shutter speed is automatically set to 1/125 sec. or slower. All this technology provides versatile flash photography capability. Furthermore, the SET button allows individual exposure compensation of flash and ambient light.
(When used in conjunction with a digital back, the right exposure depends on subjects and lighting conditions.)
* TTL flash control via the Metz 3002 system is available only with the focal plane shutter.

Advanced flash features

•Flash ready indicator in camera viewfinder •Correct exposure confirmation in viewfinder •Auto flash sync speed control (only in P and Av mode)•TTL flash control •Cordless TTL with Metz compatible flash units •Motor zoom control •AF assist beam control •Auto Transfer of ISO •Auto Transfer of lens aperture •Flash compensation +/-3EV •Flash bracketing in flash auto mode with compatible Metz flash unit •Program auto flash mode •Exposure compensation transfer •Wake-up function for camera/flash

Note: Some Metz flash units do not support all features.

Eyepiece shutter

The eyepiece shutter protects against stray back light entering through the eyepiece and affecting exposure values.

Mirror-Up photography function

During a slow shutter setting, close-up or archive photography using a tripod, the mirror-up function is effective in preventing vibrations. This function is activated by setting the drive dial to "M.UP."
During mirror-up shooting, the internal LCD of the viewfinder is on and exposure compensation and auto-bracketing functions can be used.

Delayed shutter for mirror up photography

The Mamiya 645DF has a shutter delay function when using mirror up photography. This eliminates mirror-caused vibrations and makes it possible to capture sharp and blur-less images.

Preview depth of field

Hold down the preview button to stop down the lens to the working aperture.
Preview can be used in all exposure modes.

Compatible with Ni-Cd and Ni-MH batteries

In addition to compatibility with the existing AA type battery, Ni-Cd and Ni-MH batteries can now be used.
Batteries are housed inside the ergonomically designed hand grip.

Self-timer mode

The 645DF has a wider range of self-timer settings from 0.5 seconds to 60 minutes. 0.5 sec. to 10 seconds is selectable by the second, 10 seconds to 90 seconds is selectable by units of 10 seconds, 2 minutes to 10 minutes is selectable by the minute while 10 to 60 minutes is selectable by units of 10 minutes.

Interchangeable viewfinder screen

Interchangeable viewfinder screens are available to suit the lens in use and the user's photographic application. A screen for A4 type (gridded) can be used when photographing landscapes or other scenes that require accurate horizontal lines.
When purchasing Mamiya M series digital backs, a focusing screen with the correct image area shown is included with the M18, M22 and M31.

Diopter adjusts viewfinder to vision

The built-in diopter enables adjustment of the viewfinder image to suit individual vision. Rotate the dial towards + or – to adjust within a range of –2.5 to +0.5 diopter. Optionally available diopter lenses extend this range to –5 to –2 or 0 to +3.

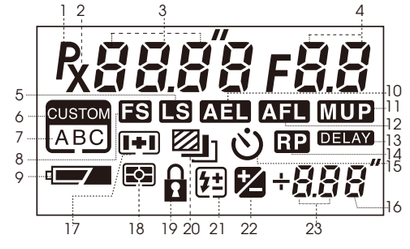
Electronic shutter and remote triggering connection

For long exposures such as bulb or slow shutter speeds, use of the electronic shutter release cable eliminates camera vibration. (Available cord length in 1m (3ft.) or 5m (17ft.). Wireless remote triggering possible with radio triggering system)

Shooting conditions and settings at a glance

Users can check the status of all functions and operations of the system, thanks to the comprehensive information shown on the LCD display panels of the camera body and in the viewfinder. Current shooting information is displayed in the viewfinder while settings, adjustments and other camera functions are displayed on the camera body. This allows the user to monitor and operate the camera with maximum ease.
In low-light situations, the LCD display panel on the body lights up by simply pressing the button.

■ External LCD Panel

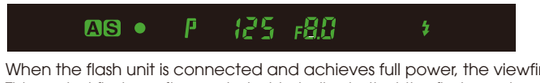


1：Program mode mark 2：Sync. mode mark 3：Shutter speed 4：Aperture value
5：Lens shutter mark 6：Custom function mode mark 7：User function mark
8：Focal plane shutter mark 9：Battery power indicator 10：AEL mark (AE lock indicator)
11：Mirror up mode mark 12：Auto focus lock mark 13：Delay mode mark
14：Repeat mode mark 15：Self-timer 16：Delay time
17：AF area mark (spot area selection indicator) 18：Exposure metering mode mark
19：Dial lock mark 20：AEB mark (auto bracketing) 21：Flash compensation mark
22：Exposure compensation mode mark 23：Exposure compensation value

■ Viewfinder LCD Panel

1：Metering mode (A, S, Auto A-S) 2：AF indicator (out of focus, focus, low-contrast)
3：Camera's warning mark (ex: incomplete preparations)
4：Exposure mode (program shift mark) 5：AEL mark (AE lock indicator) 6：Shutter speed
7：Aperture value 8：Exposure compensation value 9：AEB mark (auto bracketing)
10：Flash sync. mark (flash ready mark)

Flash status viewfinder display



When the flash unit is connected and achieves full power, the viewfinder LCD displays the flash ready mark.
This symbol flashes after each shot to indicate that the flash made a correct exposure.
*When the SCA3952 Adapter and the focal plane shutter are in use.

Names of Parts

Accessories

Magnifier FD402

This magnifying eyepiece enables precise focusing for macro and telephotography by magnifying the center of the viewfinder image to twice normal size.
After focusing, it can be flipped up without detaching to confirm overall composition.

Weight: 46g (1.6oz.)

Angle Finder FA401

The angle finder enables confirmation of image composition from a comfortable posture for low-angle,macro, and other situations.
It can be rotated a full 360 degrees (for easy viewing from any angle.)
Weight: 140g (5oz.)

Magnetic Cable Release RE401 (1m)/RE402 (5m)

Connects to the camera's electronic shutter release, and provides vibration free operation.
RE401 comes with a 1-meter (3ft.) spiral cord; the RE402 comes with a 5-meter (17ft.) straight cord.

Weight: RE401=50g (1.8oz.),
RE402=80g (3oz.)

SCA3952 Adapter (Metz Strobe)

This adapter is designed for use in combination with a SCA3002 Flash System strobe. It provides various useful features, including TTL direct flash control and a power zoom function that automatically matches the coverage angle to the focal length of the lens. Use of the SCA300 System flash requires a separately purchased SCA3000C converter cable.

Weight: 38g (1.3oz.)

Auto Bellows NC401

This high-precision macro accessory enables continuous adjustment of magnification ratio for precision manual focusing.
A data cable transmits diaphragm information to the lens mount, enabling use of aperture priority AE mode or exposure confirmation in manual mode.
The AF 80mm lens reverse ring allows reproduction at magnifications greater than 1:1 with minimal aberration over a range of 0.75 to 2.20 times with the AF 80mm f/2.8 lens.
The camera mount can be rotated 90 degrees (for simple selection of vertical/horizontal composition.)
The upper and lower rails can be used in combination at a right angle, enabling the auto bellows to shift horizontally and enable reproduction of vertical images at the same magnification ratio.

Weight: 1,340g (47oz.)

Remote Control Set RS402

The remote control set takes full advantage of the automated functions of the 645DF, opening the way to a new world of remote control photography.
The wireless unit operates via near-infrared impulses transmitted to a receiver that attaches to the camera.
Wireless operation is possible from up to 100ft. outdoors; 3-channel switching eliminates signal interference.
Power Requirements:Transmitter: Two AA-size alkaline batteries. Receiver: One S-006P 9V zinc-carbon battery

Weight:Transmitter: 130g (4.6oz.) (without batteries)
Receiver: 140g(5oz.) (without batteries)

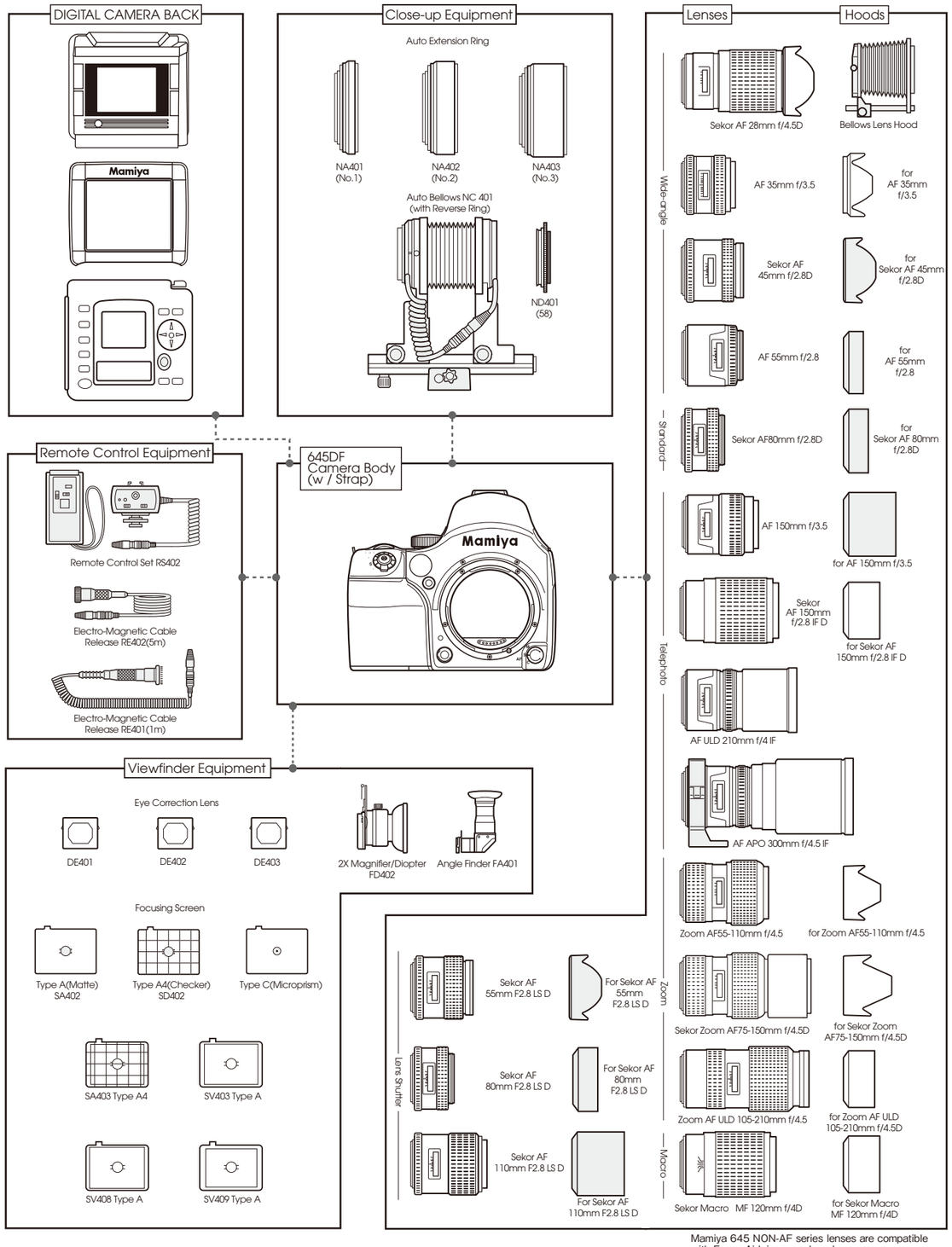
Auto Extension Rings

NA401 (No.1)/NA402 (No.2)/NA403 (No.3)
This set of macro extension rings supports the automatic diaphragm capabilities of the AF lens series. AF operation using focus marks is possible in manual mode. Rings are available in three lengths (No. 1, No. 2, No. 3), which can be used to achieve the desired magnification ratio.
Using all three rings with the 80mm lens provides maximum magnification of 1:1.Optimal Lens: AF 80mm F2.8
Weight: No.1 = 95g (3.4oz.), No.2 =125g (4.4oz), No.3 =155g (5.5oz.)

External Battery Case PE401

This case protects against deterioration of battery capacity and performance when shooting in cold conditions.
Insert the battery into the case, which can then be placed inside a pocket; a cord from the case to the camera provides power for camera operations.
Holds six AA-size batteries.

Weight: 115g (4oz.)



Mamiya 645 NON-AF series lenses are compatible with Focus Aid, in manual mode.

Specifications

Camera Type	6 x 4.5 cm format, electronically controlled focal-plane shutter, TTL multi mode AE, AF single lens reflex
Max. Image Size	56 x 41.5 mm (actual image)
Compatible digital backs	Mamiya M series, Mamiya ZD Back series
Lens Mount	Mamiya 645AF Mount (645 non-AF series lenses can be used with a microprism focusing screen and the focus assist mark during manual focusing; AE metering is possible with an optional viewfinder screen and with spot metering and stopped-down exposure
Viewfinder	Fixed prism viewfinder magnification x0.71; built-in diopter adjustment (-2.5 to +0.5, optional diopter lenses provide adjustment ranges of -5 to -2 diopter or 0 to +3 diopter); built-in eye-piece shutter
Focusing Screen	Interchangeable through the lens mount. Specially designed matte screen (standard), grid matte screen and screen for M645 lens.
Field of View	Approx. 94% (percentage of actual image viewed)
Auto focusing system	TTL phase difference detection device: CCD line sensor (I + I shaped), operating range: EV -1 to 18 (ISO 100)
Focus area	Displayed on viewfinder screen (focus area: center area of 10.8 x 3.6 mm), two switchable AF ranges (normal focus or spot focus)
AF infrared beam	Activates automatically under low light/ low contrast. Range: approx. 9 m (with AF 80 mm F2.8 lens); ON, OFF selectable
AE lock	With AEL button or half-press shutter release button in auto focus, single mode
Exposure Modes	Aperture priority AE, Shutter speed priority AE, Programmed AE, Manual, Electronically controlled bulb and time
Shutter speed/Aperture steps	Shutter speed and aperture both can be set in 1/3 or 1/2 steps; electronic dial lock
Metering Mode	TTL full-aperture metering; Center-weighted average (A), Spot (S), Variable ratio (A-S auto)
Metering range	EV 2 to EV 19 (With ISO 100, 80 mm F2.8 lens)
Exposure compensation	+/-3 EV or +/-5 EV, selectable
Shutter	Electronically controlled vertical metal focal plane shutter. Compatible with the lens shutter LS series lenses
Shutter speed AE	AE: 30sec.~1/4000sec., Manual: 30sec.~1/4000sec.(1/3・1/2steps), X, Electronically controlled Bulb and Time. Lens shutter : 1/800sec. to 1sec.
Auto-bracketing	Set using Auto bracketing button/multiple exposure button
Flash synchronization	X contact (sync. speeds : 1/125 sec. or slower when the focal plan shutter in use, 1/800sec.~1sec. when the lens shutter in use)
Flash control	TTL direct flash control, supports Metz SCA3002 system (with SCA3952 Adapter)
Mirror-up shooting	Possible using drive mode dial
Cable release socket	On shutter button
Remote-control terminal	On side of body; electromagnetic cable release
Self-timer	0.5 to 10 sec. is selectable by the second, 10 to 90 sec. is selectable by units of 10 seconds, 2 to 10 min. is selectable by the minute while 10 to 60 min. is selectable by units of 10 minutes.
Depth-of-field confirmation	Possible with preview button
Tripod Socket	U 1/4 inch and U 3/8 inch included
Power Requirements	Body: 6 AA-size batteries (alkaline, lithium, nickel-metal hydride or nickel-cadmium batteries)
External power socket	Insulated external battery case can be connected
Size, weight	153(W) x 128(H) x 152(D) mm, 1,030 g (w/o battery)

* Specifications are subject to change without notice for quality improvement reasons
* Photographs may have been digitally enhanced using development software